

Wednesday, 9/28/11

- Take out review ws and book problems
- Take notes
- classwork assignment
- Over the weekend do some PSAT booklet

2.1 Inductive Reasoning and Conjecture

Conjecture-educated guess based on known information

Inductive reasoning-reasoning using a # of examples to make a prediction

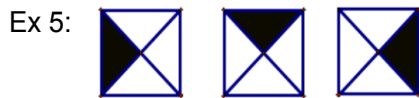
Patterns:

Ex 1: 1, 3, 6, 10, 15, 21 *12 13 14 ..*

Ex 2: A, B, B, C, C, C, D, D, D, D, E E E E E

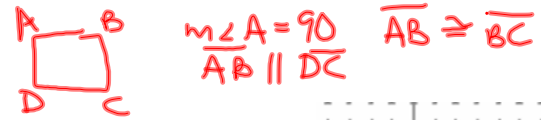
Ex 3: $1 \times 9 + 2 = 11$
 $12 \times 9 + 3 = 111$
 $123 \times 9 + 4 = 1111$
 $1234 \times 9 + 5 = 11111$

Ex 4: 3, 5, 7, 9 or 11
3, 5, 7, 11



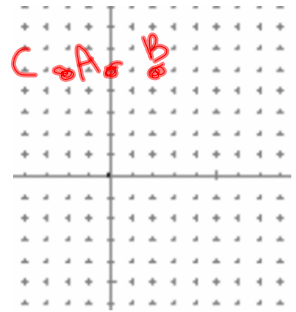
Make a conjecture based on the given information.

Ex 6: ABCD is a square



Ex 7: A(0,5) B(2, 5) C(-2, 5)

A, B, C are
collinear



Counterexample-one false
example that shows a conjecture
is not true

Determine whether each conjecture is true or false. Give a counterexample for any false conjecture.

8. Given: x is an integer.

Conjecture: $-x$ is negative.

F $x = -2$


9. Given: WXYZ is a rectangle.

Conjecture: $WX = YZ$ and $WZ = XY$



4. 

Make a conjecture about the next item in each sequence.



13. 1, 2, 4, 8, 16, 32
 $2^0, 2^1, 2^2, \dots$

15. $\frac{1}{3}, 1, \frac{5}{3}, \frac{7}{3}, 3, \frac{11}{3}$

29. Given: $\angle 1$ and $\angle 2$ are complementary angles.
Conjecture: $\angle 1$ and $\angle 2$ form a right angle.

30. Given: $m + y \geq 10, y \geq 4$
Conjecture: $m \leq 6$

$m + 4 \geq 10$
 $m \geq 6$

#s 12, 14, 16, 24,
29, 31, 33, 34, 35